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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,356	08/27/2003	Nobumasa Okada	031079	3407

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ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP  
1725 K STREET, NW  
SUITE 1000  
WASHINGTON, DC 20006

EXAMINER

IVEY, ELIZABETH D

ART UNIT PAPER NUMBER

1775

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/648,356

Applicant(s)

OKADA ET AL.

Examiner

Elizabeth Ivey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 9/15/2006
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

Claim 16 is objected to because of the following informalities:

Claim 16 recites the limitation "the selected sealing material" in line 9. Applicant has not provided a positive recitation of the presence of a sealing material prior to said recitation. Applicant has only indicated sealability of a device by a sealing material but has not established a positive presence of the sealing material. Among other corrective actions available, "the" selected sealing material may be changed to "a" selected sealing material. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8-15, 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 8, applicant claims the thickness of the third layer as  $\frac{1}{4}$  wavelength but does not define the wavelength; therefore the scope of the claims with respect to thickness cannot be determined. By  $\frac{1}{4}$  wavelength of light incident to the light incident plane, does

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applicant mean that any light at any wavelength may be used or is the article confined to a particular wavelength range? Can the proposed process form a layer at less than  $\frac{1}{4}$  wavelength of any incident light wavelength while maintaining the existence of a layer?

Regarding claims 16-18, claims merely setting forth physical characteristics desired in an article, and not setting forth specific compositions which would meet such characteristics, are invalid as vague, indefinite, and functional since they cover any conceivable combination of ingredients either presently existing or which might be discovered in future and which would impart desired characteristics. The recitation of merely optical characteristics in claims 16-18 are too broad and indefinite since they purport to cover everything which will perform the desired functions regardless of their composition, and, in effect, recite the invention by what it is desired that it does rather than what it is.—*Ex parte Slob* 157 USPQ 172. What does applicant mean by a selected environment? What optical characteristics are being claimed?

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 16-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application 2001/0031365 A1 to Anderson et al.

Regarding claims 16-17 and 19, Anderson discloses optical multilayer or laminated antireflective films of alternating high and low index of refraction materials (page 2 paragraph [0026] and page 4 paragraph [0041]), creating a plurality of reflection planes. Anderson discloses the high index of refraction layers, one of which may be considered the second layer, is one of a group of high index of refraction material including titanium oxynitride or titanium oxide (page 2 paragraph [0029]. Anderson discloses (page 2 paragraph [0017]) that the low index of refraction layers in the antireflective film are one or more of materials such as magnesium fluoride, and silicon oxide among other materials. Anderson discloses low index of refraction layers having thicknesses that would be considered less than  $\frac{1}{4}$  of some wavelength (examples page 7). Given the materials disclosed, and given Anderson's varying of materials of high or low refractive index material in any one stack, it would have been obvious to a person having ordinary skill in the art at the time of the invention to choose a material such as TiON as a layer of high refractive index while choosing a layer of TiO<sub>2</sub> as a top layer of high refractive

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index or to choose either MgF<sub>2</sub> or SiO<sub>2</sub> as a top layer of low refractive index. Anderson discloses a further hydrophobic organic layer, or a titanium oxide layer which may act as sealant layer, each respectively providing a similar index of refraction to the disclosed low or high index material (paragraph [0057]). Although Anderson does not specifically disclose the optical characteristics, such as optical reflection characteristics or the tensile and compressive stresses, the composition and structure of the device in the applicant's disclosure is the same as the disclosure in the combined prior art, absent any evidence to the contrary, one would expect that the device would inherently exhibit the properties, of the claimed invention. *MPEP 2112.02*.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application 2001/0031365 A1 to Anderson et al. as applied to claim 8 above, in view of U.S. Patent 6,222,967 B1 to Amano et al.

Regarding claim 18, Anderson discloses all of the aspects of claim 16 but does not disclose a resin. Amano discloses a resin sealing structure of an optical module (column 31 lines 2-11) on an optical device (column 1 lines 55-59). Amano discloses this is important to seal the device to achieve reliability (column 1 lines 31-32). It would therefore be obvious to a person of ordinary skill in the art at the time of the invention to combine the resin seal of Amano with the disclosure of Anderson to create a reliable optical product.

*Response to Arguments*

The examiner acknowledges applicant's amendment to claims 8 and 16.

Applicant's arguments with respect to the 112 rejections based on amendment alone still do not remedy the deficiencies of the claims as indicated above.

Applicant's arguments with respect to the art rejections of claims 16-19 have been considered and are not persuasive. Examiner has shown the claimed structure to be substantially the same as the claimed invention. Applicant has not shown any evidence that the disclosed structure would not have the same characteristic of the stresses canceling each other as in the claimed invention. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Ivey whose telephone number is (571) 272-8432. The examiner can normally be reached on 7:00- 4:30 M-Th and 7:00-3:30 alt. Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Elizabeth D. Ivey



JENNIFER MCNEIL  
SUPERVISORY PATENT EXAMINER  
11/24/06